FUSE, ALARM AND DISTRIBUTION PANEL (FADP), 628492

INSTALLATION AND PRETEST

This Section provides procedures to install and pretest the ITT D448 fuse, alarm and distribution panel (FADP), 628492. This Section is mainly intended to be used when the FADP is being installed in a rack by the customer. To wire a FADP in a prewired bay, refer to Section ITTR-18-414.

This Section has been reissued to change FADP fuse F11 from 5A to 3A and to correct power wiring connections for −48V and −48V talk battery (FADP to D448) and −48V (C.O. to FADP).

Installation of the FADP consists of mounting the unit in the rack, connecting all external wiring, and installing the alarm and ballast unit (ABU) into the FADP. Pretesting the FADP checks the operation of the alarm circuits and the accuracy of the wiring to the distribution circuits.

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CHART 1

INSPECTION

APPARATUS

None

STEP	PROCEDURE
1	Remove equipment from shipping carton.
2	Perform an inventory to verify that all equipment listed on packing list is present.
3	Inspect the equipment for shipping damage. Report any damage to carrier immediately.

CHART 2

MOUNTING

APPARATUS

Standard hand tools as required (see Section ITTR-18-400)

Mounting hardware as required

STEP	PROCEDURE
1	Position FADP at desired height in relay rack.
2	Secure FADP to relay rack using four 12-24 screws (not supplied with equipment).

CHART 3

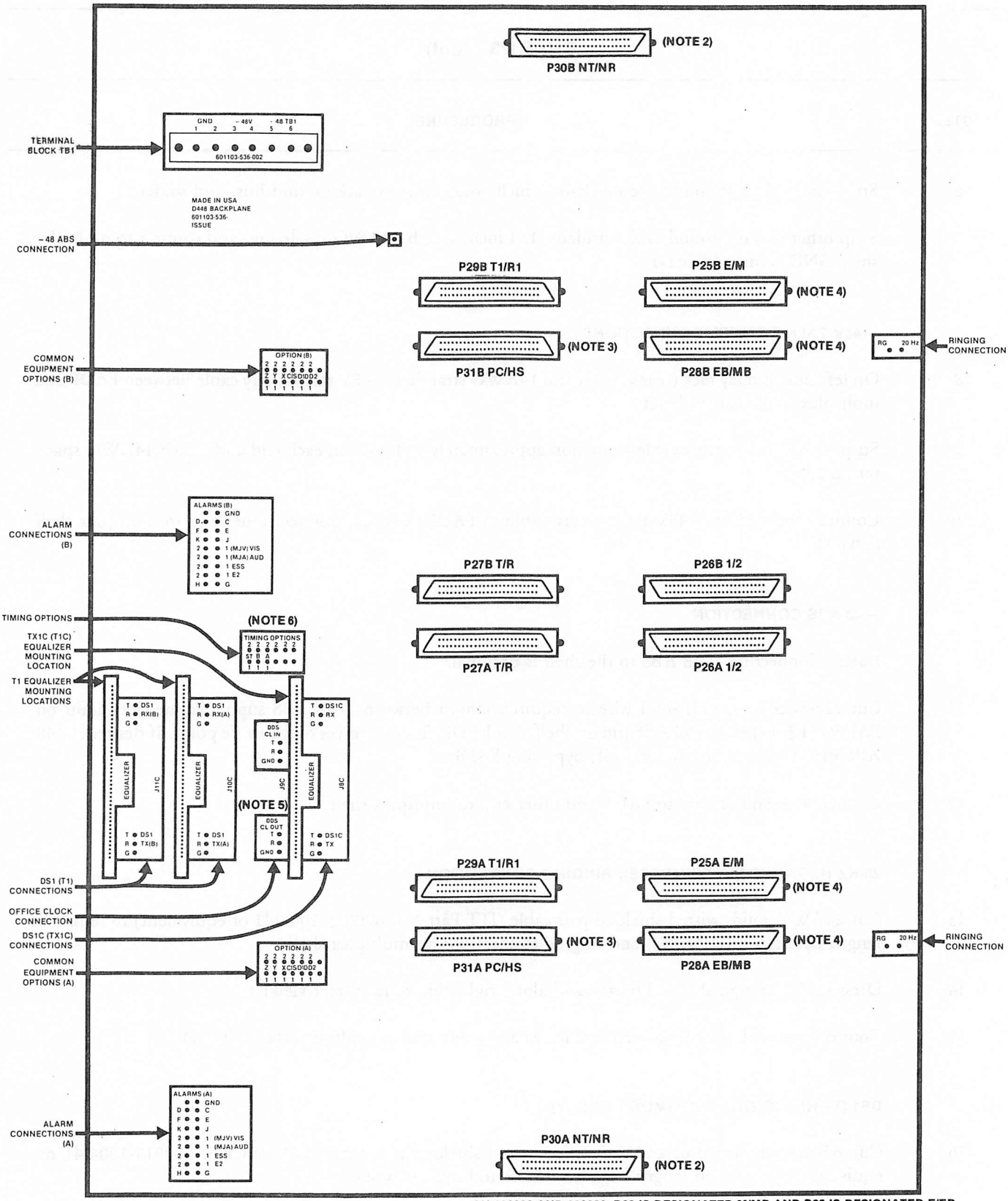
ELECTRICAL INSTALLATION (FADP TO MULTIPLEX SHELF)

APPARATUS:

1—Soldering iron and solder

Standard hand tools as required (see Section ITTR-18-400)

STEP	PROCEDURE
	Note: Refer to Fig. 1 during this procedure.
	– 48V BATTERY CONNECTION
1	Remove multiplex shelf rear cover.
2	On left side of relay rack (rear view), dress 14AWG stranded – 48V power cable between FADP and multiplex shelf. Cut to length.
3	Strip – 48V power cable insulation approximately 1/4 inch on each end and attach 14AWG spade terminals.
4	Connect one end of – 48V power cable to FADP (TB3-1). Connect other end to multiplex shelf (TB1-3).
5	Measure cable run distance between relay rack ground bus and multiplex shelf GND terminal (TB1-1). Cut 14AWG insulated, stranded ground cable to required length.

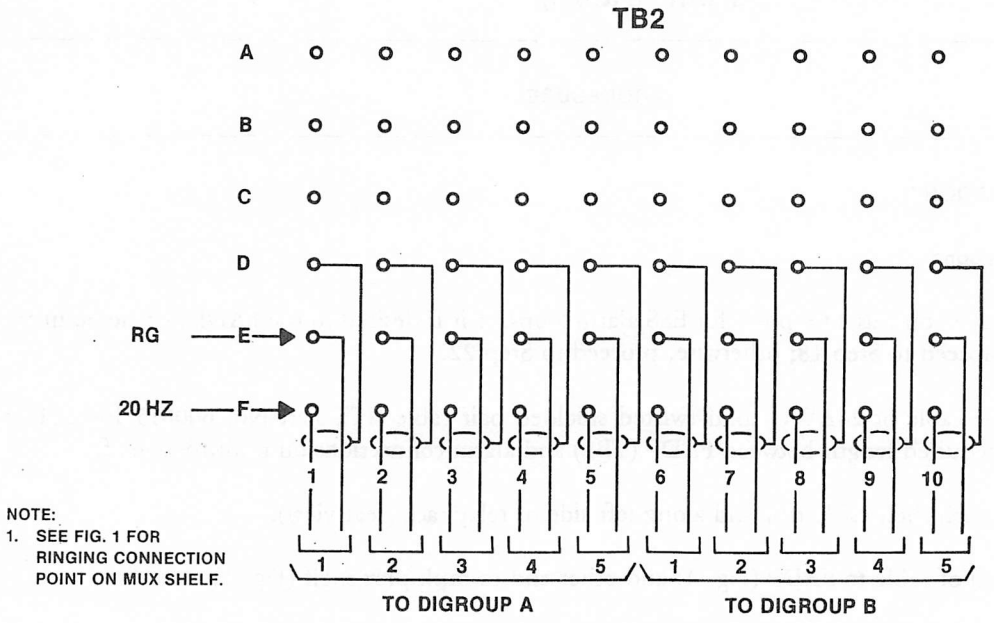


NOTES:
1. (A) DENOTES DIGROUP A; (B) DENOTES DIGROUP B.
2. NOT SUPPLIED ON 628008 AND 628018.
3. NOT SUPPLIED ON 628008.
4. ON 628003 AND 628008, P28 IS DESIGNATED M/MB AND P25 IS DESIGNATED E/EB.
5. ON THE GROUP -001 MULTIPLEX SHELF, DDS CL OUT IS DESIGNATED OFFICE CLOCK AND DDS CL IN DOES NOT EXIST.
6. ON THE GROUP -003 MULTIPLEX SHELF, OPTION [ST] IS FOR FUTURE USE.

Fig. 1—D448 Backplane Layout

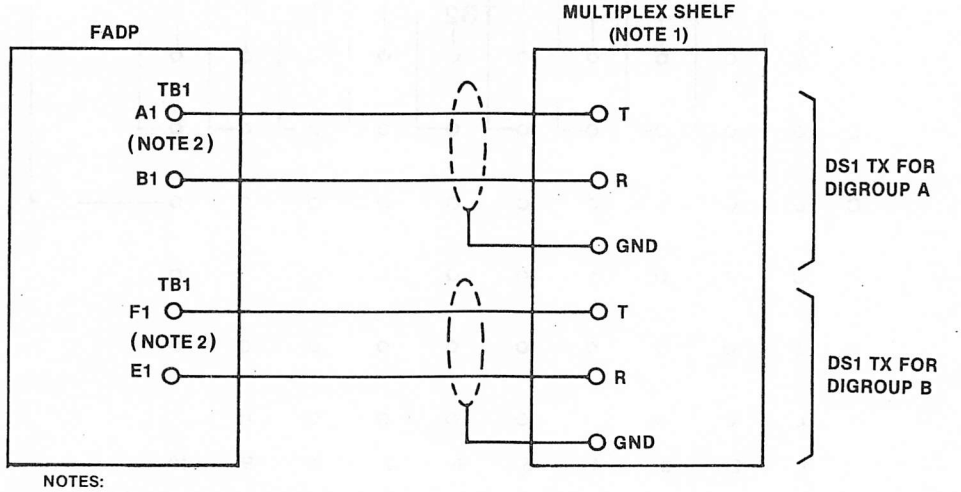
CHART 3 (Cont)

STEP	PROCEDURE
6	Strip one end of ground cable insulator 1 inch, wrap to relay rack ground bus, and solder.
7	Strip other end of ground cable insulator 1/4 inch, attach 14AWG spade lug, and connect to multiplex shelf GND terminal (TB1-1).
	– 48V TALK BATTERY CONNECTIONS
8	On left side of relay rack (rear view), dress 14AWG stranded – 48V talk battery cable between FADP and multiplex shelf. Cut to length.
9	Strip – 48V talk battery cable insulation approximately 1/4 inch on each end and attach 14AWG spade terminals.
10	Connect one end of – 48V talk battery cable to FADP (TB3-6). Connect other end to multiplex shelf (TB1-5).
	– 48 ABS CONNECTION
	Note: Connecting – 48 ABS to the shelf is optional.
11	Cut 22AWG insulated, solid wire to required length between – 48 ABS supply connection point on FADP (TB3-11) and – 48 ABS pin on shelf. On FADP, TB3-11 serves only as a tie point. If desired, – 48 ABS may be wired directly to shelf, bypassing FADP.
12	Connect one end of wire to FADP and other end to multiplex shelf.
	20-HZ NEGATIVE SUPERIMPOSED RINGING CONNECTION
13	Cut 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent) to required length between FADP (TB2) and ringing connections on multiplex shelf.
14	Dress cable through shelf cable tray and along right side of rack (rear view).
15	Connect one end of cable to FADP (Fig. 2) and other end to multiplex shelf (Fig. 1).
	DS1 (T1 HF) CONNECTION (MODE 3 ONLY)
16	Cut ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent) to required length between FADP and multiplex shelf.
17	Make connections between FADP and multiplex shelf as shown in Fig. 3.



NOTE:
1. SEE FIG. 1 FOR RINGING CONNECTION POINT ON MUX SHELF.

Fig. 2—Ring Connections from FADP (TB2) to Multiplex Shelf



NOTES:
1. SEE FIG. 1 FOR DS1 CONNECTION POINTS ON MULTIPLEX SHELF.
2. CONNECTION POINTS SHOWN ARE TO MULTIPLEX SHELF #1. FOR MULTIPLEX SHELF #2, USE PINS A2, B2, E2, AND F2; FOR MULTIPLEX SHELF #3, USE PINS A3, B3, E3, AND F3; ETC.

Fig. 3—DS1 Connections from FADP to Multiplex Shelf

CHART 3 (Cont)

STEP	PROCEDURE

ALARM CONNECTIONS

A. ESS Alarm Loops

Note: FADP serves only as a tie point for ESS alarm loops. If it is desired to use FADP as a tie point for these alarms, proceed to Step 18; otherwise, proceed to Step 22.

18 Cut ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent) to required length between FADP (TB2) and alarm connections on multiplex shelf.

19 Dress cable through shelf cable tray and along left side of relay rack (rear view).

20 Connect one end of cable to FADP (Fig. 4) and other end to multiplex shelf (Fig. 1).

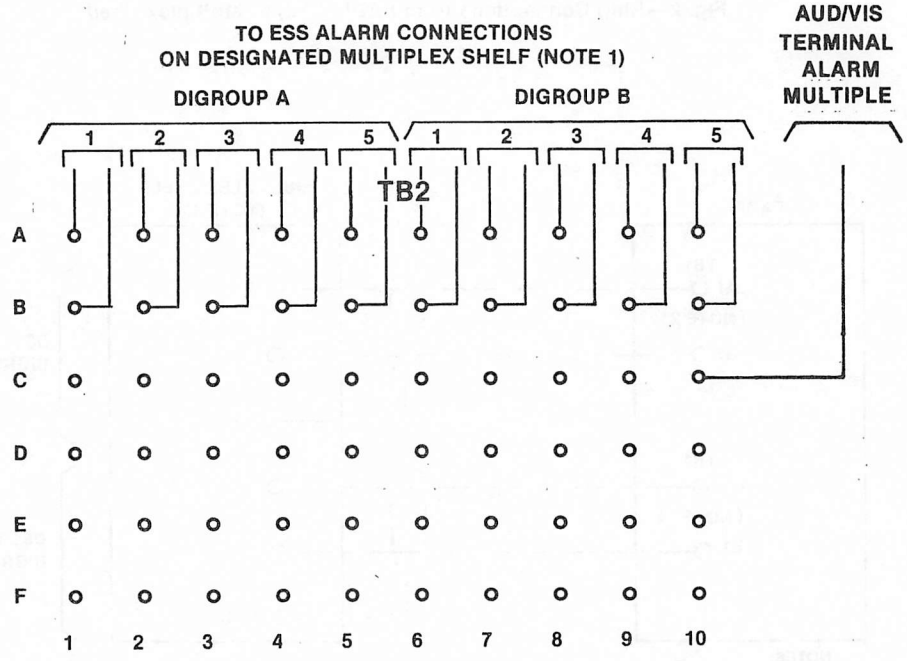


Fig. 4—ESS and AUD/VIS Terminal Alarm Connections from FADP (TB2) to Multiplex Shelf

21 Proceed to Step 23.

22 Connect ESS alarm loops on each multiplex shelf (Fig. 1) to office alarm systems, using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent).

CHART 3 (Cont)

STEP	PROCEDURE
	B. Audible and Visual Alarm Loops
23	On multiplex shelf, connect AUD pin 2 (ALARMS A) to AUD pin 2 (ALARMS B) (Fig. 1) using 24AWG wire.
24	Connect AUD pin 2 (ALARMS A) (Fig. 1) to TB2-C10 on FADP (Fig. 4) using 24AWG wire. Wire should be run up left side of relay rack (rear view).
	Note: Since audible and visual alarm loops use same relay in TPA unit, it is necessary to perform the above procedure for only the audible alarm loop.
25	On multiplex shelf, multiple together AUD pin 1 (ALARMS A) and AUD pin 1 (ALARMS B) (Fig. 1), then connect to a convenient ground point on backplane using 24AWG wire.
26	Refer to Section ITTR-18-406, Chart 4, for VF and signaling connections to multiplex shelf.

CHART 4

ELECTRICAL INSTALLATION (CENTRAL OFFICE TO FADP)

APPARATUS

Standard hand tools as required (see Section ITTR-18-400)

STEP	PROCEDURE
	PRELIMINARY
1	Remove office fuse supplying – 48V office battery to FADP.
2	Remove office fuse supplying 20-Hz ringing to FADP.
3	Remove *all* fuses from FADP.
	– 48V BATTERY CONNECTION
4	Connect office ground to TB4-2 using stranded 6AWG or 4AWG wire.
5	Connect – 48V office supply to TB4-1 using stranded 6AWG or 4AWG wire.

CHART 4 (Cont)

STEP	PROCEDURE

20-HZ NEGATIVE SUPERIMPOSED RINGING CONNECTION

6 Connect 20-Hz ringing supply to the following pins, using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent):

(a) 20 Hz to TB3-14,
(b) Ringing ground to TB3-15,
(c) Shield to TB3-13.

DS1 (T1 HF) CONNECTIONS (MODE 3 ONLY)

Note: When using twisted, shielded cable, terminate shield at only one end to avoid ground loop and attendant noise problems. Either end of shield may be left "floating" according to local company operating practices.

7 Connect DS1 (T1 HF) pairs to TB1 as shown in Fig. 5 using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent).

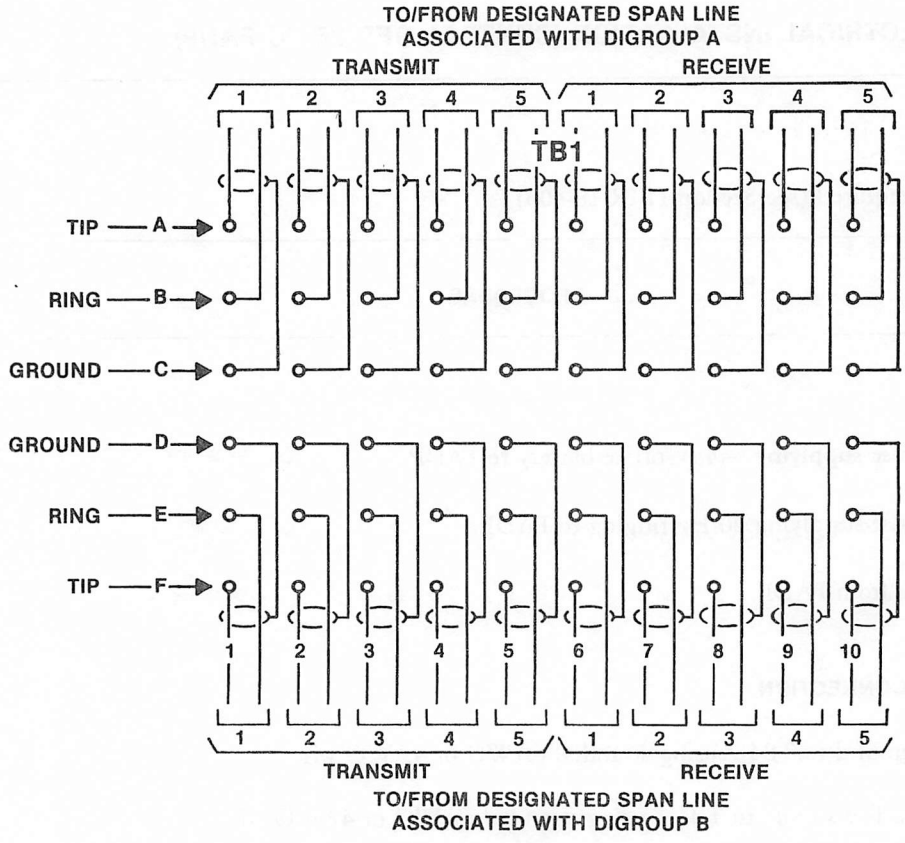


Fig. 5—DS1 Transmit and Receive Connections from FADP (TB1) to Span Lines

CHART 4 (Cont)

STEP	PROCEDURE

ALARM CONNECTIONS

A. ESS Alarm Loops

Note: If FADP is being used as a tie point for the ESS alarm loops, proceed to Step 8. If the ESS alarm loops have been fed directly to the office alarm system from the multiplex shelf (shelves), proceed to Step 9.

8 Connect ESS alarm loops from FADP (Fig. 6) to office alarm connection points using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent).

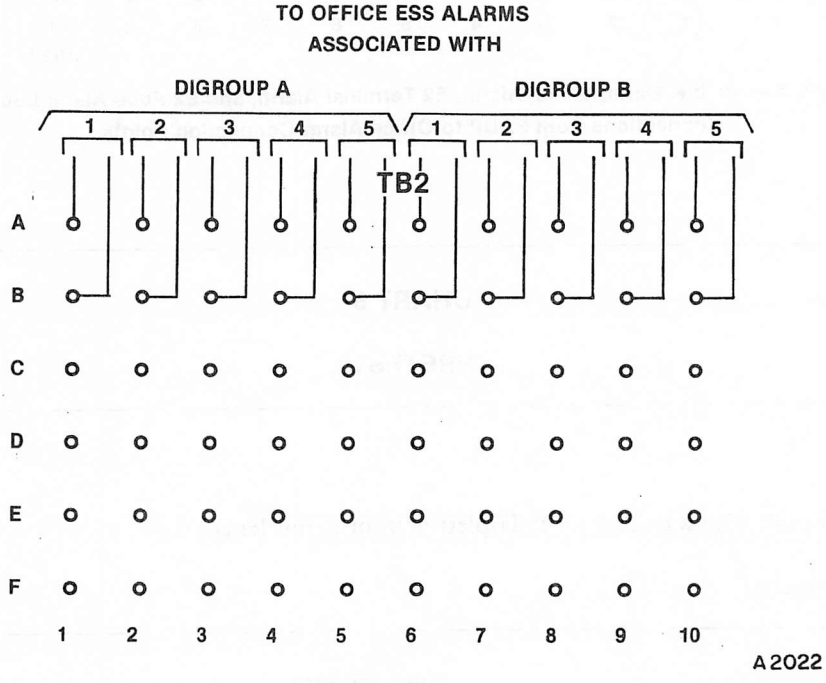


Fig. 6—ESS Alarm Connections from FADP (TB2) to Office Alarms

B. Audible Alarm, Visual Alarm, E2 Terminal Alarm, and E2 Fuse Alarm Loops

9 Connect audible alarm, visual alarm, E2 terminal alarm, and E2 fuse alarm loops from FADP (Fig. 7) to office alarm connection points, using ABAM-type cable or 24AWG solid twisted shielded pair cable (ITT Part No. 600015-100-241 or equivalent).

CHART 4 (Cont)

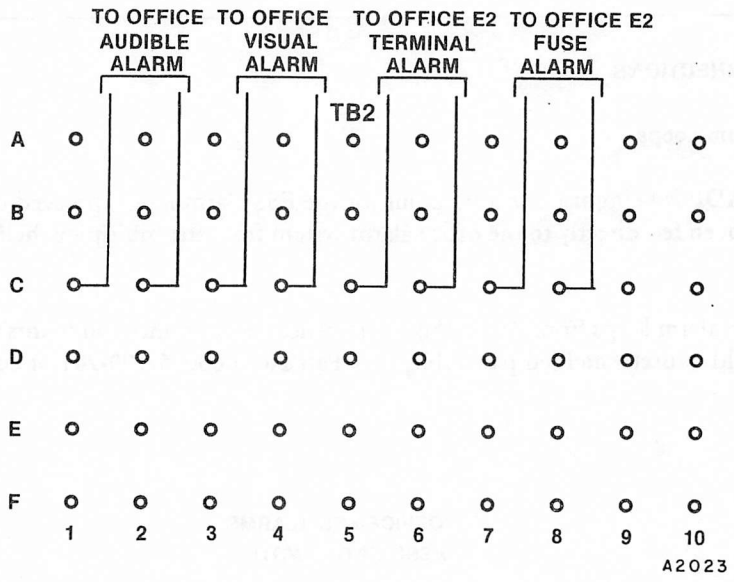


Fig. 7—Audible Alarm, Visual Alarm, E2 Terminal Alarm, and E2 Fuse Alarm Loop Connections from FADP to Office Alarm Connection Points

CHART 5

PRETEST

APPARATUS:

1—Volt-ohm meter (VOM) (WE KS-14510, Triplett 630, or equivalent)

1—Open GMT-type fuse

STEP	PROCEDURE
1	Install office fuse supplying −48V office battery to FADP.
2	With VOM set to volts dc scale, connect it across TB4-2 (+) and TB4-1 (−).
	Requirement: VOM reads −44 to −56 Vdc.
	Note: If a separate talk battery supply is not used, proceed to Step 5. Otherwise, proceed to Step 3.

CHART 5 (Cont)

STEP	PROCEDURE
3	Install office fuse supplying 20-Hz negative superimposed ringing to FADP.
4	With VOM set to volts ac scale, connect it across TB3-14 (+) and TB3-15 (–).
	Requirement: VOM reads 80 to 160 Vrms.
5	Install main fuse F14 in FADP.
6	Insert an open GMT-type fuse into position F1 on FADP.
	Requirement: ALARM indicator on alarm and ballast unit (ABU) turns on and office audible, visual, and fuse alarm contacts in ABU are activated.
7	Repeat Step 6 for positions F2 through F11.
	Requirement: ALARM indicator on ABU turns on and office audible, visual, and fuse alarm contacts in ABU are activated.
8	Install 1-1/3A GMT-type fuse (color code white) in position F12.
9	Install 1A GMT-type fuse (color code gray) in position F13.
10	Install 3A GMT-type fuse (color code blue) in position F11.
	Note: Do not install fuses in remaining positions F2 through F10 at this time. Fuses should be installed when power is needed for associated multiplex shelf or when required in the case of spare positions.